> to provide regulatory certainty to potential bidders for licenses to provide commercial mobile services. The Conference Agreement clarifies that state authority to regulate is 'grandfathered' only to the extent that it regulates commercial mobile services 'offered in such State on such date.' The Conference Agreement also clarifies that the State authority continues in effect until the Commission completes all action on the petition (including reconsideration)... The Conference Agreement further clarifies that state authority to regulate is only 'grandfathered' if the State files a petition seeking such authority within 1 year after the date of enactment... (emphasis added)

In short, the plain language of Section 332(c)(3)(B) and its legislative history contradict the cellular carriers' construction. It must be rejected.

Finally, as a matter of policy, it makes no sense to believe Congress intended to lock in states to a particular set of regulations in existence as of June 1, 1993, and to compel states to petition to retain those regulations unchanged during the transition to competition within intrastate markets for cellular and wireless services. To the contrary, the Budget Act amendments and their legislative history demonstrate that Congress viewed the states as significant players in furthering the transition to competition in particular wireless service markets, and accordingly, expressly provided for continued state regulatory oversight to promote full and effective competition in markets not yet sufficiently competitive to ensure just and reasonable rates to intrastate consumers for such services. Like Congress and the FCC, the CPUC is aware of the rapid and dynamic technological changes beginning to emerge within the wireless industry. Such changes, among other things, will foster competitive alternatives to existing cellular services, and enhance consumer choice. In order to further additional competition within cellular markets in light of such changes, Congress certainly intended that states have ample flexibility to tailor the extent and degree of existing regulatory authority of cellular carriers.[128] It is irrational to believe, as the cellular carriers do, that Congress intended to hamstring the states in effectuating this transition by requiring states to adhere to a particular set of regulations adopted over a year ago which may no longer serve the public interest.

In sum, under the Budget Act amendments, Congress intended to divide state petitions into two categories: those which had not exercised any rate authority over particular commercial mobile service providers and those which had exercised such authority as of June 1, 1993. In the former case, a state may petition the FCC to obtain such regulatory authority. In the latter case, a state may petition to retain such regulatory authority. In both cases, it is the state's exercise of

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128. The FCC's Second Report and Order implementing Section 332(c)(3)(A) and (B) of the Budget Act is in accord with congressional intent as discussed above. The FCC itself refers to "State Petitions to Extend Rate Regulation Authority." 9 FCC Rcd at 1501. The FCC also agrees that Section 332(c)(3)n is "clear as to the the circumstances under which states may be permitted to petition the Commission for authority to regulate the rates for CMRS.." (emphasis added) Id. at 1504, ¶250. The FCC thus effectuates Congress' intent, as set forth in the language and legislative history of the Budget Act, that state authority shall be retained where market forces are not adequate to ensure just and reasonable charges for wireless services. It is only for the first time in opposition to the state petitions here that the duopoly cellular carriers attempt to cast a spin on the unambiguous language of Congress.

authority, not its particular regulations, which Congress sought to preserve under the standard set forth in Section 332(c)(3)(A) and (B), and consistent with the dual scheme of regulatory authority under the Communications Act.

B. The Budget Act Expressly Contemplates A Role for the States When Market Forces Are Inadequate to Ensure Just and Reasonable Intrastate Wireless Rates

Ignoring the purpose underlying the dual regulatory scheme of the Communications Act, and Congress' intent to preserve that scheme under the conditions set forth in Section 332(c)(3) of the Budget Act, a number of carriers argue that the FCC has already determined that the cellular industry is currently and fully competitive, and hence, any state showing to the contrary is per se preempted, rendering state petitions superfluous.

This argument is nonsensical. Clearly, if that were the case, Congress could have preempted the states entirely, simply leaving it to the FCC to evaluate local market conditions and to conclude that they were adequate to ensure just and reasonable cellular rates. Congress did not do that. Instead, Congress recognized the local nature of certain wireless services, like cellular; recognized that local markets for such services may not be sufficiently competitive; and recognized that states were in the best position to evaluate whether conditions in local markets are sufficiently competitive to ensure just and reasonable rates for cellular service. Congress accordingly provided a procedure in the Budget Act to enable states to retain regulatory authority over intrastate rates under the standard defined therein.

Obviously, none of this would have been necessary if Congress intended that an FCC finding on the competitiveness of wireless services in interstate markets would apply equally to separate, intrastate markets.

Several carriers argue further that state rate regulation of the duopoly carriers is inconsistent with federal intent that carriers providing similar services be treated similarly. They claim that since the FCC has chosen not to exercise rate authority over any commercial mobile service providers, neither may the state. This argument misconstrues federal law.

There is no dispute that Congress intended to establish a federal regulatory framework governing the provision of all commercial mobile radio services. In particular, Congress was concerned that certain providers of private mobile services were functionally indistinguishable from providers of common carrier mobile services, yet only the latter services were regulated. Congress thus sought to eliminate the disparate treatment between those services classified as private and those services classified as common carriage.[129]

At the same time, Congress expressly recognized that within the category of services classified as common carriage commercial mobile services, certain providers, such as those determined to be non-dominant, could be treated differently than other providers, determined to be dominant.[130] Congress thus preserved

129. House Report No. 103-111, 1993 U.S.C.C.A.N. 587.

130. Id. at 587.

the FCC's ability to forbear from tariffing such non-dominant providers.[131]

In explaining its intent, Congress acknowledged that "[d]ifferential regulation of providers of commercial mobile services is permissible but is not required in order to fulfill the intent of this section" (emphasis added).[132]

Congress further recognized that:

> market conditions may justify differences in the regulatory treatment of some providers of commercial mobile services. While this provision does not alter the treatment of all commercial mobile services as common carriers, this provision permits the Commission some degree of flexibility to determine which specific regulations should be applied to each carrier. For instance, the Commission may, under the authority of this provision, forbear from regulating some providers of commercial mobile services if it finds that such regulation is not necessary to promote competition or to protect consumers against unjust or unreasonable rates or unjusty or unreasonably discriminatory rates. At the same time, the Commission may determine that it should not specify some provisions as inapplicable to some commercial mobile services providers ... if it determines after analyzing the market conditions for commercial mobile services, that application of such provisions would promote competition and protect consumers.[133]

By requiring states to demonstrate that intrastate market conditions are not adequate to ensure just and reasonable rates

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131. Id.

132. House Conference Report No. 103-213, 1993 U.S.C.C.A.N. 1180.

133. Id.

for consumers in order to retain state regulatory oversight of rates, Congress contemplated that states would likewise analyze market conditions, and for intrastate ratemaking purposes, would likewise have the flexibility to treat those providers of commercial mobile services which have market power differently than those which do not.

Moreover, in preserving the dual regulatory scheme of the Communications Act under the conditions set forth in the Budget Act amendments, Congress necessarily understood that federal and state regulation may differ, depending on differences in interstate and intrastate markets for particular services. Thus, the fact that the FCC and the state might conclude differently with respect to competitive conditions within interstate and intrastate cellular markets, and hence tailor the nature and degree of regulation accordingly, is an inherent result of the dual statutory scheme. While regulatory symmetry may be desirable from the standpoint of the cellular carriers, such symmetry may not be in the overall public interest, as Congress itself recognizes.

Finally, the FCC itself admits that its own record on the degree of competition is less clear, and that although it has found the interstate market for cellular services sufficiently competitive in earlier proceedings, it did not engage in a market analysis.[134] Likewise, the FCC found none of the analyses submitted by parties in GN Docket No. 93-252 "to be

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134. Second Report and Order, 9 FCC Rcd at 1470, ¶ 145.

determinative."[135] And, although the FCC concluded that while not fully competitive, cellular service is sufficiently competitive to allow the FCC to forbear from tariffing such service when provided interstate, the FCC did not foreclose states from undertaking their own analyses of local cellular markets for the purpose of determining the necessary scope of state oversight of intrastate cellular rates.

C. The CPUC Regulatory Regime Applicable to Cellular Carriers Satisfies the FCC Requirement of Specificity And Is Consistent With Federal Law

Mounting their next attack, several carriers complain that the CPUC has failed to explain with specificity its regulatory regime governing the rates for cellular services. Others claim that, even if it has, the CPUC regulatory regime conflicts with federal law. Still others maintain that the CPUC improperly denied the carriers evidentiary hearings in finding the lack of competitiveness in California cellular markets. Various other carriers believe that a six year old record underlying a CPUC order regarding the competitiveness of the cellular market in California estops the CPUC from further analysis and different findings. Finally, in a desperate display of hysteria, various carriers contend that the CPUC intends to impose rate-of-return

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135. Among other things, the FCC stated that "[t]hose who allege that prices are falling mainly because of competition do not support that claim with adequate evidence." Id. at ¶ 150.

regulation on cellular carriers. All of these claims are utterly baseless.

First, the criticism that the CPUC has not identified with sufficient specificity how it intends to exercise authority over cellular service rates is directly contradicted by the same carriers mounting the criticism. As the CPUC fully set forth in its petition, and referenced by the carriers themselves in their oppositions, the CPUC described the following regulatory regime which is currently in place: (1) cellular carriers file tariffs which contain market-based, not cost-based, rates for services; (2) carriers have wide flexibility to raise and lower rates; (3) carriers may lower rates to any level on the same day that notice is given; (4) carriers may increase rates up to a market-based price cap set at tariffed rates in place in 1993 for service plans; and (5) carriers may offer optional service plans with any rate they desire.[136] Such rate then serves as a market-based ceiling rate. Consistent with federal policy, the CPUC has also encouraged a competitive resale market by establishing a margin between wholesale and retail cellular rates for resellers.[137]

Like any sound regulatory regime, the CPUC's tariffing rules have evolved over time, based on changing conditions within cellular markets and experience with the cellular industry. Contrary to the assertions of the industry, which resists any

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136. Curiously, AirTouch complains that the CPUC failed to prescribe rates, and instead relies on market-based rates set by carriers like AirTouch.

137. CPUC Petition at 12-19.

form of regulatory oversight, such evolution has been in the direction of significantly relaxed regulatory oversight of the duopoly carriers' rates.

At the same time, the CPUC has adopted measures designed to further the CPUC's objective to increase competition and enhance consumer choice in intrastate markets. Like the FCC, the CPUC believes that a strong resale market serves to enhance competition, and hence should be encouraged.[138] Two years ago, the CPUC sought to increase competition substantially at the wholesale level from resellers, which the CPUC had found were offering new services not offered by the duopoly carriers.[139] The CPUC thus proposed to order the duopoly carriers to unbundle two rate elements currently bundled with charges for airtime. These elements are rates for interconnection rates with a local exchange or other landline carrier, and rates for obtaining a block of NXX numbers. Currently, both functions are obtained from the duopoly carrier. Both functions, however, are competitively provided, and could be obtained directly the landline carrier and directly from the administrator of the number blocks.

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138. In the Matter of Equal Access and Interconnection Obligations Pertaining to Commercial Mobile Radio Services, CC Docket No. 94-54, <u>NPRM</u> at ¶138 ("we have found that a strong resale market for cellular service fosters competition." (footnote omitted).

139. These include voice mail services, multi-line hunting and dual system access.

The CPUC proposal met heavy resistance from the duopoly carriers, who did not want cellular resellers to become a viable competitive threat. Arguments ranged from allegations of improper methods for continuing to cap prices for wholesale elements to allegations that the CPUC was attempting to impose cost of service regulation. In D.92-10-026, the CPUC found no basis for these arguments, and concluded that a proposal was technically feasible.[140] The CPUC further directed that switch-based resellers be allowed to purchase NXX codes directly from the administrator of those codes, and to arrange landline interconnection directly with the provider thereof.[141]

The cellular carriers did not unbundle these rate elements, which the CPUC had directed be done in its 1992 order.[142] Instead, they sought rehearing of that order. Because the CPUC had initiated a broader investigation of the wireless industry, including the cellular industry, it granted limited rehearing in order to review the proposal in conjunction with other proposals designed to foster competition with concomitant relaxation of CPUC regulatory oversight.[143]

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140. D.94-08-022, slip op. at 82, citing D.92-10-026. CPUC D.94-08-022 is attached as Appendix N to the CPUC petition.

141. D.94-08-022, slip op. at 80, citing D.92-10-026.

142. Notably, this directive was prior to the June 1, 1993 date which the carriers maintain is the time after which the CPUC should not be allowed to alter its regulatory program.

143. D.93-05-069.

On August 3, 1994, in D.94-08-022, the CPUC reiterated its directive from D.92-10-026 and concluded, based on the record underlying both orders, that the unbundling of only two rate elements comprising the cellular carrier's wholesale rate was feasible and fully consistent with the goal of enhancing competition within the cellular industry. Decision 94-08-022 became effective on August 3, 1994 (i.e., the order has not been stayed), and is a fundamental element of the CPUC's regulatory regime to foster viable competition from cellular resellers in markets which are not currently competitive and do not face imminent competition from new market entrants.

In short, as all of the above demonstrates, the CPUC has spelled out its regulatory program in detail and has satisfied the FCC's requirement that it do so. Arguments to the contrary are simply groundless.

Notwithstanding the above, the duopoly carriers attempt to play the "rate-of-return" card by falsely claiming that the CPUC plans to impose such form of regulation. The claim must be dismissed as a scare tactic designed to mask the light-handed regulatory oversight which the CPUC currently exercises over the cellular carriers.[144]

The duopoly carriers also claim that the rate unbundling proposal adopted by the CPUC is contrary to federal policy. Once

144. Tellingly, the carriers cite no CPUC decision supporting their claim, nor is there any. To the contrary, the CPUC has clearly and consistently rejected rate-of-return of regulation for the cellular industry.

again, they provide no basis for their assertion. The FCC itself has encouraged the unbundling of rate elements for functions and services provided by landline carriers in order to enable competitive access providers, interexchange carriers, and enhanced service providers to use only those bottleneck elements necessary to provide services in competition with landline carriers.[145]

Similarly here, the CPUC is simply ordering cellular carriers to unbundle rate elements to enable competitive cellular resellers to purchase only those bottleneck functions, such as airtime, from the duopoly cellular carrier and to purchase elsewhere, at the reseller's option, functions and services offered by other providers. The CPUC's order is entirely congruent with and promotes the federal goals in promoting competition. Indeed, Congress itself considered "the right to interconnect an important one which the [FCC] shall seek to promote..." House Report No. 103-111, 1993 U.S.C.C.A.N. at 588. Congress thus embodied such right in Section 332(c)(1)(B). The right to interconnect reflects Congress' understanding that certain facilities and functions may not be available from more than one provider, and hence to foster competition, such provider should be required to interconnect other providers on reasonable

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145. <u>See</u>, <u>e.g.</u>, Filing and Review of Open Network Architecture Plans, 4 FCC Rcd 1 (1988); In the Matter of Expanded Interconnection with Local Telephone Company Facilities, CC Docket No. 91-141.

terms and conditions.[146]

The industry nevertheless attempts to create a red herring by arguing that the CPUC has mandated physical interconnections and thereby has intruded on federal jurisdiction. To the contrary, all that the CPUC required is that the duopoly carrier honor a bona fide request by a cellular reseller to interconnect with the former. The CPUC, however, made clear that the cellular reseller "would have to demonstrate the compatibility between the reseller's switch and the dominant carrier's MTSO." D.94-08-022 at 83.[147]

At the same time, it is well-established under federal law that states set intrastate rate elements of network services, features and functions used in both interstate and intrastate communications. California v. FCC, 905 F.2d 1217 (9th Cir. 1990); California v. FCC, 4 F.3d 1505 (9th Cir.1993); Louisiana Pub. Serv. Comm'n v. FCC, 476 U.S. 355 1986).[148] In this case, the CPUC has ordered the unbundling and setting of rates for

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146. Accordingly, contrary to CCAC's claim of discrimination, Congress recognized that certain providers of wireless services could reasonably be treated differently than others.

147. Nowhere has the CPUC compelled a duopoly carrier to purchase and install "costly new equipment," assuming such is necessary. CCAC at 103. And, not surprisingly, the duopoly carriers identify none, nor do they identify, let alone substantiate, any such costs if in fact incurred. In any event, to the extent that a carrier incurs additional costs for interconnection with a reseller's switch, such carrier may recoup any reasonable costs from the reseller.

148. And contrary to CCAC's assertion, the FCC itself acknowledges the severability of costs of interconnection service into interstate and intrastate components.

components of access service provided by the duopoly carrier wireless network, a function which in other contexts has long been subject to dual state and federal authority. Louisiana Pub. Serv. Comm'n v. FCC, 476 U.S. 355 (1986).

In short, the scope of the CPUC's rate unbundling proposal is far more limited than that painted by the duopoly cellular carriers. Their criticism is nothing more than an attempt to defeat efforts by the CPUC to inject additional and needed competition in to currently uncompetitive cellular markets.[149]

The remaining arguments of the carriers are wholly specious or otherwise irrelevant to the CPUC petition. Incredibly, they assert that the CPUC is essentially estopped from analyzing anew the state of competition in intrastate cellular markets because it had concluded on a record developed over six years ago that the markets were then sufficiently competitive. This is sheer nonsense. They also assert that the CPUC violated state procedure in adopting its orders. That assertion is likewise baseless, and in any event is a matter properly of state law, not federal law.[150] Lastly, the supposed denial of the carriers'

149. The FCC itself indicated in response to a request by a cellular reseller that interconnection of a reseller switch with the facilities-based cellular carrier would not conflict with federal policy. See Letter of Myron Peck, dated September 26, 1991, attached hereto in Appendix K.

150. Contrary to the carriers' claim, nothing compels the CPUC to hold evidentiary hearings in establishing a record upon which it bases its decision. Like the FCC, the CPUC may rely on written comments in according all parties notice and an opportunity to be

(Footnote continues on next page)

opportunity to respond to carrier-provided materials redacted from the CPUC petition is entirely of their own making.[151] Not one duopoly carrier requested to review these materials under protective order or other arrangement, and cannot now cry foul for failing to take an opportunity they voluntarily chose to forego.

In sum, the CPUC regulatory regime satisfies all federal requirements and is fully consistent with federal law.

CONCLUSION

For all of the reasons stated herein and in the CPUC Petition To Retain State Regulatory Authority Over Intrastate

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(Footnote continued from previous page)

heard. Moreover, CCAC is simply wrong in asserting that the CPUC modified an earlier order, and must provide a hearing under state law. When, as here, the CPUC initiated a wholly new proceeding to update a stale record from six years ago on the competitiveness of the cellular industry in California, the CPUC was under no legal obligation to conduct an evidentiary hearing. CCAC's claims to the contrary are baseless, and in any event, are properly for the state courts to resolve, not the FCC.

151. At the same time, as discussed above, CTIA has refused to allow the CPUC to obtain data reviewed or relied upon by its consultant CTIA apparently believes that only the cellular carriers, not the CPUC or other parties, has due process nights. See CPUC Emergency Motion to Compel Production, dated September 29, 1994; Comments of California In Support of Protective Order at 7.

Cellular Service Rates, the CPUC respectfully requests that the FCC grant the CPUC petition.

Respectfully submitted,

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Finally, the 1991 NERA Report offers us Charles Jackson's view of the proper calculation of producers' surplus associated with cellular telephone licenses. Surplus constitutes payments in excess of costs, including a normal return on capital invested. According to Jackson:

> *Our estimate, in 1990 dollars, of the producer surplus associated with cellular properties in urban areas is therefore $80 billion.*[60]

This combines the NTIA's $87 billion esimate of MSA cellular license value with a $7 billion estimate of total capital invested. Importantly, it makes no allowance for the "opportunity cost of spectrum," and clearly considers the NTIA value and capital numbers to be appropriate. In following precisely this logic in my analysis, I was condemned by Haring & Jackson in the most colorful terms.

4.5 The Haring & Jackson Numbers Still Produce Monopolistic Q Ratios.

As a thought experiment, let's recalculate the cellular Q-ratio using the NTIA public market values which the Haring & Jackson paper frets have *disappeared.* Poof: They're back. And let us assume that the capital costs (including marketing expense) of cellular systems in late 1990 (coinciding with the NTIA public market values) are even higher than what Haring & Jackson report for 1992: $1,808 per subscriber. (Haring & Jackson claim June 1992 capital costs per subscriber of $1,670 -- "more than *twice* the number used by Hazlett in

60 NERA Report, p. 12.

his analysis."[61]) In December 1990 there were 5.2 million cellular subscribers.[62] The upshot is that capital costs in the cellular market amounted to $9.4 billion -- 40% above what the Commerce Department identified as "Estimated Total Replacement Cost" of cellular systems in 1991.[63] Let us also forget about the 1991 figures used by Charles Jackson which imply a Q = ($87 billion)/($7 billion) = 12.43.[64] We shall use figures in excess of the Haring & Jackson capital cost-per subscriber number, and employ the public value numbers they (now) champion to determine the net market value of cellular *licenses*: $46.4 billion.

This implies a Q = 5.9.[65] And it has been adduced using the Haring & Jackson numbers, by my count (and Mr. Jackson's count in his previous studies of both cable and cellular markets) too light on the value side and, by the CBO, NTIA, and Mr. Jackson's previous count, too heavy on the cost of capital side.

61 Haring & Jackson, p. 6. It seems like *deja vu* combined with a little role reversal for Charles Jackson, perhaps; the Q ratio he estimated for the cable industry was attacked by TCI as way too high. Their reply took issue with every cost estimate, value estimate, methods employed, etc., etc. Shooshan & Jackson replied: "As a general proposition, it is true that estimates of q reflect subjective judgments and can vary, depending on those judgments. However, the monopoly/monopsony profits of the cable industry are so large that they can be detected by any reasonable procedure for calculating the q ratio." Shooshan & Jackson 1988, p. 6.

62 Dennis Leibowitz, Joel Gross, Eric Buck, and Frederick Moran, *The Cellular Communications Industry* (New York: Donaldson, Lufkin & Jenrette, Winter 1992-93) [Hereinafter [DLJ 1992"], p. 11.

63 Which was $6.7 billion (NTIA 1991, p. D-5).

64 This is just below the medium-sized market Q-ratio of 12.41, which I reported in Table 4 (Hazlett 1993, p. 14).

65 The market value of cellular systems = ($9.4 billion + $46.4 billion), while the replacement cost of capital = $9.4 billion. Hence, ($55.8 b.)/($9.4 b.) = 5.9. Note that the replacement cost of capital must be added to the value of licenses in the numerator so as to obtain the entire market value of cellular systems; indeed, the NTIA estimated the value of licenses by subtracting the cost of capital *from* full market value.

This Q = 5.9 is clear evidence of supra-competitive profits. Michael Salinger writes: "Provided that all inputs are provided competitively, *q* should be highly sensitive to even small amounts of monopoly power."[66] More to the point, perhaps, are Mr. Jackson's own analyses of this subject. When analyzing Q ratios in cable television markets, he (with Chip Shooshan) settled on a Q value of 2.81 for the industry. When TCI objected, the response was as follows:

> *Although TCI attacked our numbers and suggested numbers of their own, TCI failed to complete the analysis by calculating the appropriate q ratios. Let us now calculate the q ratio based on the numbers and procedures proposed by TCI...*[67]

The resulting Q ratio was estimated to be 1.59. This led Shooshan & Jackson to surmise:

> *This q ratio can be compared to the q ratio of 0.805 for all non-financial corporations. Thus, the q ratio for the cable industry, even using TCI's proposed numbers and procedures, <u>is almost twice</u> that of the rest of the non-financial economy. Given our rejection of alternative explanations for the high q ratio, we conclude that the cable industry is earning excessive monopoly/monopsony profits. Indeed, even with TCI's numbers, expected monopoly/monopsony profits are about 60 percent of the book value of the industry's tangible assets.*[68]

In electing to present their evidence putting capitalized profits at nearly *six times* capital costs, Haring & Jackson define a Q ratio of 5.9 for the cellular telephone industry. According to standard economic analysis, and Mr. Jackson's previous work, this is

66 Michael A. Salinger, "Tobin's *q*, Unionization, and the Concentration-Profits Relationship," *Rand Journal of Economics 15* (Summer 1984), p. 159.

67 Shooshan & Jackson 1988, p. 15.

68 *Ibid.*

overwhelming evidence of the existence supra-competitive returns. Surely, whatever can be said about "excessive monopoly/monopsony profits" of a Q ratio of 1.59 goes several times over for a Q = 5.9.

5 Duopolistic Output Restriction in Cellular Telephone Markets.

The Haring & Jackson paper attempts to dismiss any claim regarding market power in cellular markets by claiming that there is no reason to believe that the cellular incumbents restrict output (or raise price) to do anything other than ration a scarce resource: spectrum. Of course, the high prices paid for cellular license rights constitute graphic, revealing evidence that there are supra-competitive returns being made in this market. Since licensees do not bid spectrum out of competing uses, these license payments are not "resource costs" but rents -- payments in excess of costs.

However, there is an empirical case that could be made (Haring & Jackson do not) that the reason investors pay so much to purchase one of two cellular duopoly licenses is that, given the parsimonious spectrum allocations which each constitutes, high prices must be charged (far above unit costs) simply to ration the artificially constrained frequency space. This implies a marginal cost curve which rises rapitdly as the number of phone calls placed over any one system reaches its maximum traffic capacity. Hence, profits are large because -- while price equals marginal cost for the last call made -- average cost is far below both price and marginal cost. In other words:

1. capacity is constrained in cellular markets such that prices must be raised above average costs simply to keep access lines open;

2. since the FCC has not imposed a fee for the spectrum itself, the margin between such prices and average costs will accrue to the licenseholder as profit (or license rents);

3. and, in setting price just equal to the marginal cost of serving the last customer, the duopoly cellular telephone provider does not restrict output any more than what is necessary, given the FCC's allocation of megahertz.[69]

Haring & Jackson adduce no evidence for this view that there is no output restriction attendant to the FCC's two-to-a-market license policy in cellular; they simply state that they can explain high license values by constructing a theory. They hope that by shifting the burden of proof to others,[70] this theoretical construction will explain away market power in the industry. To cite their words, with appropriate substitution: "*They* can tell a story, but there are lots of stories that can be told."[71]

Unfortunately, there are obvious facts observed in the cellular marketplace which contradict the no-market power view, and the FCC's own analyses have consistently concluded -- based on this evidence -- just the opposite of Haring & Jackson: Duopoly suppliers do restrict output in cellular markets. Indeed, the cellular providers have concluded this themselves, a fact discussed in my previous paper, and one which the Haring & Jackson paper scrupulously avoids.

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69 As shown above, this is not the same as saying that cellular licenses prices simply reflect the opportunity cost of spectrum. License values reflect that the price of cellular service has been driven up by FCC allocation policy which has confined its licenses to use just a small fraction of airwave space that consumer demand would, given the social opportunity cost of spectrum, deem efficient.

70 Haring & Jackson, p. 5.

71 Haring & Jackson 1993 write: "Since theory is Hazlett's *only* basis for arguing that observed rents are the product of duopolistic output restriction, his case thus fails. He can tell a story, but there are lots of stories that can be told, consistent with observation, and that is really the point. The fact that the story he tells is actually *inconsistent* with a competitive market failure underscores the errors in his analysis" (p. 4, emphasis in original). This jubilant summation of their section on Cournot duopoly theory, which they completely fail to understand, alerts the reader to the degree of distortion involved here. My case for duopoly market power was and is based on the market evidence, a point I make explicitly in the previous paper and in this one.

5.1 Under-Utilization of Capacity.

If cellular telephone service rates are high *only* due to the scarcity of cellular spectrum allocated by the FCC, and such prices are necessary to ration scarce airwave access, an observable implication in the cellular telephone service market is that systems are operating at or near full capacity. Yet, cellular rates been *falling* in recent years as cellular usage has been *dramatically increasing*, an observation plainly at odds with this view.

According to the General Accounting Office, inflation-adjusted cellular telephone rates for airtime declined about an average 27 percent during the 1985 to 1991 period.[72] Another study found that the effective rate charged to customers using 100 minutes per month of cellular calling time fell 29 percent over the 1985-1992 period.[73] In that cellular subscribership rose nationally from about 203,000 in June 1985 to 6.4 million in June 1991 and 8.9 million in June 1992, it is curious that spectrum scarcity was not so constraining a factor as to force prices to rise. This is even more curious in that the national average density of systems, measured by subscribers per cell site, rose from 372 in December 1985 to 962 in June 1992.

Moreover, if cellular systems are rationing access against capacity constraints, then why do rates in sparsely populated MSAs or RSAs often exceed rates charged in areas where population density is far higher, and utilization of the airwaves considerably more intense? For instance, the rate charged for 150 minutes of monthly usage is only $67.80 on the A sys-

72 United States General Accounting Office, "Concerns About Competition in the Cellular Telephone Service Industry," (GAO/RCED-92-220; 1 July, 1992), p. 22. Falling cellular rates are not evidence -- by themselves -- of either competitive or monopolistic market structure. Because the company lowering price also set the previous price, all that appears is that the firm's profit maximization calculus has changed. This could be due to greater market competitiveness, or to lower marginal costs, or to shifts in consumer demand, *etc.* Since a firm with market power could very well face market demand shifts which encourage it to set a lower *monopoly* price than previous, the implications of price changes alone are ambiguous.

73 *Ibid.*

tem and $62.82 on the B system) in Chicago, but is $80.40 on both A and B systems in New Orleans, despite the fact that there are 525,928 cellular subscribers in Chicago and but 62,100 in New Orleans.[74]

After reviewing both rate and capacity utilization data for California cellular markets, the Division of Ratepayer Advocates noted:

> *Currently, only parts of the LA [Los Angeles] market are capacity constrained and will need significant investments in order to expand their services. LA has an efficiency ratio of 635 subscribers per each frequency which is at least three times larger than the next largest market. LA's efficiency ratio illustrates the expansion that is possible in the other California cities. Clearly, capacity is not a constraint for expansion; cellular prices are.*[75]

It is apparent, after observing the data, that cellular systems are pricing higher than is necessary to ration scarce frequency space.

Supporting evidence can be found in a 1992 Donaldson, Lufkin & Jenrette report cited by Haring & Jackson. The DLJ model of the future growth of the wireless telephone market indicates that current duopoly incumbents are restricting output. The report changes previous DLJ projections of subscriber growth to account for competitive entry in wireless telephone markets, which they had come to see as a given. This prompted them to lower their forecast of subscriber rates, and to project that at least 60% of the additional (new) subscribers would be served by the existing cellular duopolists:

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74 May 1993 prices, as reported in General Accounting Office, "Charges for Itemized Cellular Telephone Bills," (September 1993). There may well be a correlation between high-demand cities and higher prices, because price searching firms with constant marginal costs will likely raise prices when demand increases.

75 Memorandum to Commissioner Fessler, Joe Delloa, "Cellular Rates," (San Francisco: California Public Utility Commission; 22 December, 1992), pp. 1-2.

[W]e are finally collapsing our two alternative valuation models into one, in recognition of the fact that the advent of lower-priced consumer portable services, whether provided by new PCN competitors or the current operators, is a matter of when, not if. Previously, we used a basic model which extrapolated the current business out to the Year 2000, assuming an increase in penetration to 15%, but with rates still at $67 per month in then current dollars in the terminal year. We also had a faster-growth model which looked to 24% penetration at the end of the decade with $52 rates, and which assumed that the new PCN or SMR entrants would have 20% of the market in the end year. The two models began to diverge, by our forecasts, in 1994. (Fleet Call [Nextel] projects that its ESMR systems will achieve 20% of the growth in its markets after launch, which would account for one-third or more of the market for new entrants if our forecast is correct.)[76]

If existing providers are expected to expand output from current levels when new competitors enter the market and lower prices, how can spectrum scarcity account for 100% of the rents being earned now?

Consistent with this analysis is the current pricing behavior in cellular markets. Duopoly service providers pay (subsidize) cellular telephone retailers to add new customers to their networks. As Jerry Hausman notes:

A primary form of price competition among [cellular] carriers to date has been competition to sign up new customers... Competition between cellular service providers has led to equipment discounts to customers of amounts between $100 - $450 when new customers initiate cellular service. New customers have also been offered significant amounts of free air time. Note that the equipment discounts are an important source of price competition. A discount of say $350 is equivalent to a reduction in the monthly cellular access fee of about $10 per month over a 3 year period...[77]

76 DLJ 1992, p. 15.

77 Affidavit of Jerry A. Hausman in *United States of America v. Western Electric Company, Inc., et al.* (United States District Court for the District of Columbia, Civil Action No. 82-0192; 29 July, 1992), pp. 12-3.

If capacity constraints were forcing cellular systems to ration access time by price, and price were still being set where it equaled marginal cost, then lowering the effective price of access for the marginal subscriber would mean that the firm was pricing below marginal cost. Pricing below marginal cost is evidence of non-economic behavior.[78] This sort of price discrimination in favor of new customers reveals that the cellular duopolists themselves believe that prices charged are, in general, above marginal cost; *i.e.*, that firms are using their market power to restrict output from competitive levels.

5.2 The Reed Study.

FCC studies of cellular have shown that spectrum scarcity implicit in 25 MHz licenses does not create cost curves which are consistent with the Haring & Jackson explanation. In a 1992 study conducted by David Reed, an engineer and policy analyst in the Office of Plans and Policy, it was shown that both PCS and cellular providers have average cost curves which sharply decline with output (number of subscribers) and then level off to a relatively flat shape, indicating constant returns to scale. As cellular architecture (or micro-cellular, in the PCS case) is easily adaptable to higher capacities with additional investment in new cells, this makes intuitive sense. As new subscribers are added to a system, frequencies are reused more often, a process accomplished by cell splitting. Reed's study shows average costs for a 25 MHz cellular service provider remaining flat up to 50% market penetration, far higher than today's cellular penetration ratios. Under this scenario, the billions paid for cellular

78 The argument that firms are engaged in predatory conduct is ruled out, because specific capital is sunk, firms are highly profitable, regulatory constraints bar mergers, and there is no exit from the industry.